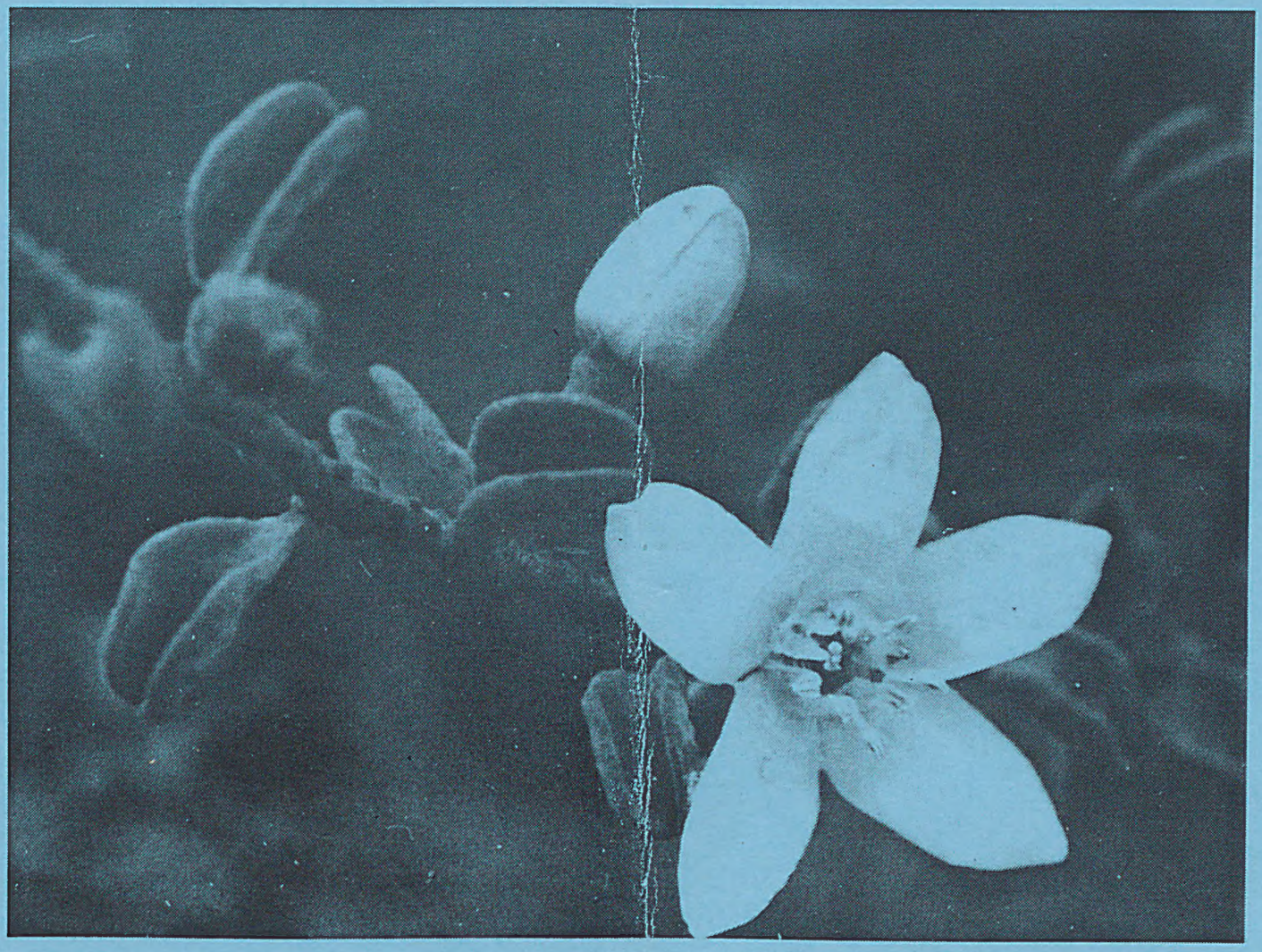
WHIRRAKEE

September 1996 Vol. 17 No. 8

Registered by Australia Post. Publication No. VBH4462



MONTHLY NEWSLETTER OF THE BENDIGO FIELD NATURALISTS CLUB

Bendigo Field Naturalists Club Inc.

Address for correspondence: PO Box 396, Bendigo 3550

Office Bearers for 1995 - 1996

President	Bill Holsworth	13 Nabilla Crs. Bendigo	43 4063
Senior Vice President	Jane Cleary	24 Goynes Rd. Epsom	48 4396
Junior Vice President	Chris Tzaros	20 Guys Hill Road, Strathfieldsaye	39 5544
Secretary	Rod Orr	2 Cockerel Court, Bendigo	43 5668
Assistant Secretary	Lyn Hamilton	3 Park Ave, Golden Square	47 8884
Treasurer	Glenise Moors	Mandurang South Rd. Sedgwick	39 6254
Membership Officer	Bob Ruddick	Markevitch Lane, Bendigo	49 3287
Excursion/syllabus organiser	Warwick Bates	40 James Street, Bendigo	41 1980
Librarian	Jane Cleary	24 Goynes Rd. Epsom	48 4396
Whirrakee contact	Sabine Wilkens	82 Somerville Street, Bendigo	43 2797

Membership of the Bendigo Field Naturalists Club is open to all those interested in Natural History. The subscription rates are: Single $30; Family $35; Concession: Single $25; Family $30. *Whirrakee* subscription only is $30.

General meetings are held on the second Wednesday of each month. The venue for General meetings is the Golden Square Senior Citizens Building, Old High Street, Golden Square. Meetings start at 7:30pm and conclude with supper. The Annual Meeting is held in September.

Committee meetings are held on the third Wednesday of each month. Members of the Committee are the Office Bearers listed above, together with the following members:
J Burtonclay; A Bridley; M Stone; S Beattie; J Raven; R Moors.

Excursions The assembly point for excursions is the Golden Square Senior Citizens Building, unless otherwise specified. Full-day excursions normally commence at 10am (usually on a Sunday); half-day excursions normally commence at 2pm and may be either on a Saturday or Sunday. Full-day or half-day excursions are usually held on the weekend following the General Meeting. Campouts are held several times each year, usually coinciding with long weekends or holiday periods.

The Bendigo Field Naturalists Club has 2 active sub-groups:

Bird Observers Group: meets on the first Friday of the month, at 7:30pm. The venue for meetings is the Golden Square Senior Citizens Building.

President: Alf Howe
Secretary: Sally van Gent

Mammal Survey Group: meets on the fourth Wednesday of the month at 7:30pm in the Golden Square Senior Citizens Building.

Chairman: John Burtonclay, Fadersons Lane, Mandurang (39 5710)
Secretary: Bill Holsworth, 13 Nabilla Crs., Bendigo (43 4063)
Equipment Officer: Ian Fenselau
Vice Chairman: John Guley

Front Cover

Photographer: Ian Flecknoe-Brown

The front picture shows a Bendigo Wax Flower, *Eriostemon verrucosus* covered in dew. It was photographed at the Salomon's Gully Flora Reserve in late June or early July. At the end of August, the wax flowers are still going strong. We in Bendigo may take them for granted, but I recently took a visitor from Melbourne, who was well up with her wildflowers, through the University bushland and she had never seen them! They were splendidly in flower there and she was most impressed..... we are lucky indeed.

WHIRRAKEE

Monthly Newsletter of the Bendigo Field Naturalist Club
Vol. 17, No. 8, September 1996
Whirrakee takes its name from the Whirrakee Wattle (*Acacia williamsonii*) which is virtually endemic to the Bendigo region

CONTENT

Item	Contributor	Page
Rabbit Calicivirus Disease and Raptors	Anne Bridley	3
News from the 2nd Mistletoe Forum	Sabine Wilkens	3
From the Mailbag	Elaine Mathison	4
An Oz Boy in Kansas	Tom Burton	5
Commemorating Wattle Day - 1st September (cont.)	Elaine Campbell	6
Pollinators of Golden Wattle	Sabine Wilkens	7
Hakea sericea and Flowering Red Ironbarks	Tom Patullo	9
Bird Observations	Bird Observers Group	10
Mystery Objects		10
Spring in the Bendigo Bushland - September Diary		11
Aboriginal Management of the Natural Environment	Stan Pelczynski	13

Authors are responsible for the accuracy of the information they use and also for any opinions expressed in their articles.
Contributions will be included as soon as possible after they are received, although articles received after the monthly General Meeting will probably be too late for inclusion in the next issue of *Whirrakee*.
Articles in *Whirrakee* may be reproduced, but permission should be obtained from the Bendigo Field Naturalists Club, and acknowledgment should be given to the author and the Club. Some back issues are still available on request (see article in March *Whirrakee*).

Dinner Meeting

September 11 at 6.30pm

To be followed by AGM and President's address

Cost $ 12.00 per person

Tickets will be available at the August general meeting.
RSVP by 21st August to Jane Cleary 484396

Rabbit Calicivirus Disease and Raptors

Author: Anne Bridley

Of all the bird counts I have taken part in, the Bird of Prey (BOP) Watch was the one I enjoyed the most. I was sorry when it ceased, so I was pleased when I received a letter informing me that BOP Watch was starting again. This project was established by the RAOU and the Australian Raptor Association.

This survey is the perfect distraction for long car trips, as well as improving one's raptor identification skills. But it has a more important purpose - monitoring the effects on birds of prey of the Rabbit Calicivirus Disease. Rabbits are important in the diets of Wedge-tailed Eagle, Little Eagle, Black Kite,Whistling Kite, Spotted Harrier, Swamp Harrier, Grey Goshawk, Brown Goshawk, Black-breasted Buzzard, Brown Falcon, Black Falcon, Masked Owl and Barking Owl.

The previous BOP Watch took place during 1986 - 1990, the current one will span 1996 to 2000. Data gathered during the two projects will provide a measure of the impact of the RCD - induced decline in rabbit numbers on bird of prey populations.

The Australia-wide survey involves keeping a record of raptors seen on car trips longer than 50km. More information can be had from

William Steel
BOP Watch Coordinator
Royal Australasian Ornithologists Union
415 Riversdale Road
Hawthorn East Vic. 3123

Information for this article came from 'When Rabbit Calicivirus Disease strikes, whither the raptors?', pp. 20-21, *Wingspan*, June 1996.

News from the 2nd Mistletoe Forum

Author: Sabine Wilkens

The second mistletoe forum was held on Saturday 31st August, the weekend before the *Whirrakee* went to print, so there was only just time to write about some of the highlights.

One of the speakers, Dr Nick Reid, from the University of New England in Armidale spoke on regeneration of mistletoes after fire and defoliation. The general findings were that regeneration is slow compared to the recovery times of other plant species. Why that is so is quite a mystery seeing that mistletoes do not have to struggle very hard to get the nutrients and water they need. While the host plants of mistletoes are usually hard-leaved as a result of the type of environment they have evolved in, mistletoes which live a much more sheltered life are mostly soft-leaved and rather more succulent. Somehow they did not get around to evolve efficient survival mechanisms against fire like that of their hosts. Why is this so? This is a puzzling question considering they are believed to be original Gondwanan plants and have been with their hosts since the dawn of Australia as a continent.

Another interesting question is the reason for the excellent mimicry of some mistletoes of their host foliage and the lack of this mimicry in others. For the reasons given above mistletoe leaves are probably more palatable to leaf-eating insects and mammals. If leaf eaters could easily tell the mistletoe from the hard-leaved host plant preferential predation on the mistletoe would result and so it was probably advantageous to the mistletoe to look similar to the foliage of their hosts. So the grazing pressure might explain the mimicry but what of those mistletoes which look nothing like their host plants? Nick Reid speculated that these may have acquired their host plants relatively recently, i.e. after the last ice age when the bulk of the grazing pressure was removed by the extinction of Australia's giant browsing mammals.

I don't know whether Nick Reid's thoughts on this question are shared by everybody in this field but they make a nice story anyway.

From the Mailbag
Author: Elaine Mathison

Each month the Club receives a number of newsletters and magazines: some by subscription and some in exchange for *Whirrakee*. These are available from the Club librarian at our meetings.

HABITAT(ACF)
Vol. 24 No. 3 June 1996

'Frog Haven' by Peter Wright points out that the unexpected discovery of the threatened green and golden bell frog on a building site in Sydney has led to a innovative species relocation project.

'Razing the Roof of the World' by Chris Doran exposes the reality behind Tibet's "Shangri-La" myth since the Chinese invasion almost 50 years ago. Deforestation threatens the country's remarkable diversity and much of the wildlife is facing extinction. Other ecological problems arise from the dumping of radioactive waste and planned hydro-electric schemes.

'Unclean, Unsafe and Unwanted' by David Sweeney outlines the environmental and human costs of the nuclear industry. We need to look very closely at Australia's role as a uranium producer.

'Revolutionary Food' by John McKenzie, Sarah Wright & Toni Phillips details a new revolution in Cuba where people are growing their own food in backyards, on rooftops and along nature strips, to overcome shortages and create sustainable development.

* * * * * * *

THE VICTORIAN NATURALIST(VFNC)
Volume 113(3) 1996 June

'The Bryophyte Flora of Wilson's Promontory' by David Meagher reports on almost 140 years of bryophyte(mosses & liverworts) collecting in this area. The results of a recent systematic survey of these species on the Promontory are outlined.

'Founder Effects in Some Victorian Wild Rabbit Populations' by Rosamond Shepherd & J.W.Edmonds deals with research into the genetic origins of the wild rabbit populations in Victoria. Genetic differences introduced with the original rabbit populations are still to be observed in today's animals.

'Back to the Heart of the Mallee' by R.J.Fletcher tells the story of Wyperfeld National Park from the time of the explorer Edward John Eyre to Arthur Mattingley, a noted naturalist early in this century. The writer set out to retrace the steps of a journey made by Mattingley in 1907.

'Middle Yarra Timelines: Early Winter' by Glen Jameson describes a season of growth and activity for the bushland and its creatures as the first rains fall.

* * * * * * *

THE BIRD OBSERVER(BOCA)
July 1996 No. 765

'A Walk in the Mallee' by P. & J. Rogers: includes observations of a Malleefowl tending his mound.

'Tailings Dams' by Paul Ryan & Bob Shanks: problems for birds arising from cyanide residues left after gold mining.

'Kingston Rest - Top Spot in the Kimberley' by Kevin Coate: half the birds in Western Australia recorded on one property.

'Glossies in Goonoo' by Judie Peet: a study of the endangered Glossy Black-Cockatoo undertaken by a naturalist group in the Dubbo area.

* * * * * * *

An Oz Boy in Kansas

Author: Tom Burton

I arrived in Kansas a week or so ago, and most of the time I have been in a laboratory or a conference hall, but I've spent a lot of time walking, and have had one day in the field.

The part of Kansas I am working in is not at all as I'd expected it to be. The midsummer climate is like that of the Queensland coast: warm (30°C or so), humid and likely to burst into a thunderstorm complete with spectacular lightning at any time. Already I have experienced two terrifying storms, and there has been plenty of less spectacular wet weather, as well as some hot and sunny days.

As a result of this weather, the lawns of Kansas University are green and lush. and on those lawns, at any time of day, there may be Squirrels (Grey and Red) and Cottontail Rabbits cavorting. As I walk to my lab I am sure to pass some American Robins, which look like Blackbirds with rusty underparts; Blue Jays, beautiful birds with loads of personality; Cardinals, brilliant scarlet with black on the face; Crows; House Sparrows (yes) and Starlings (yes, again); House Finches, which look like blushing House Sparrows.

Other animals which I have seen around the University include voles (small rodents with very short tails - rattlesnake food really); tiger swallowtails, which are beautiful and common; and fireflies. On a humid night with the fireflies flickering I was back in the New Guinea Highlands.

My field trip took me to the Henry S. Fitch Wildlife Park. The park is named for a famed snake researcher, who has used the area for a study site for 48 years. So who better to be shown about by than the inventor of the Fitch snake trap himself. What a wonderful couple Henry and Virginia Fitch are! Henry took me around his drift net and traps, and turned over hundreds of sheets of iron he has placed to attract snakes. We caught two snakes (rather, Henry did): a beautiful, non venomous (no trace of glands, I understand) blue racer, which is iridescent blue with a yellow belly; and a beautifully patterned brown, white and red (red tongue) garter snake, fat with embryos.

Bird I saw were Indigo Buntings and Blue Grosbeaks - overgrown sparrow relatives, each species the deepest blue. We saw plenty of Bullfrogs in the ponds, and caught tiny Cricket Frogs on the edge of the ponds. We saw giant assassin bugs, Dragonflies more spectacularly marked than I have ever sen, and a Fox-tailed Squirrel which was lovely.

The snakes that were caught were measured; one had already been marked, the other was marked, then both were released. Similarly we let the frogs go.

The highlight of this trip was a walk in original, unploughed prairie. The growth of waist-high herbs and grasses was unbelievably rich, varied and dense. As this vegetation assemblage is almost extinct, I felt mightily privileged to be there.

Wattle Day - September 1

Author: Elaine Campbell

To commemorate Wattle Day on September 1 Elaine Campbell has gathered all kinds of information on wattles. This article is a continuation from one in last month's Whirrakee (p.11).

Many people are prejudiced against wattles because they think they are a major cause of Hay Fever. The opinion of the Commonwealth Serum Laboratories is that grasses in general are the most important Hay Fever plants. Wattle is frequently suspected and does sometimes cause nasal irritation (as do many other plants such a Cosmos, Dahlias etc.) but it is usually found that inconspicuous weeds or grasses are the real culprits.

There is an Acacia for every conceivable application from prostrate plants, small shrubs, large rounded shrubs to sturdy trees. Acacias are generally quick growing to fill in a space, create a screen, add colour and good foliage character. They attract birds to your garden by a variety of benefits such as habitat, nectar and seed source and also by being a host for insects.

Golden Wattle

Golden wattle, fairy stuff,
Little balls of yellow fluff
hear the bees how loud they hum
To say they're glad that Spring is come

When the stars begin to peep
Then the wattle falls asleep
Like a tired child in bed
It drops its pretty curly head

Anon.

Acacias of the Bendigo Area

Acacia	*acinacea*	Gold Dust Wattle
	aspera	Rough Wattle
	ausfeldii	Ausfeld's Wattle
	brachybotrya	Grey Mulga
	calamifolia	Wallowa
	dealbata	Silver Wattle
	deanei	Dean's Wattle
	deformis	Mystery Wattle
	flexifolia	Bent Leaf Wattle
	genistifolia	Spreading Wattle
	gunnii	Plough Share Wattle
	hakeoides	Hakea Wattle
	implexa	Lightwood
	lanigera	Woolly Wattle
	montana	Mallee Wattle
	mearnsii	Black Wattle
	melanoxylon	Blackwood
	oswaldii	Umbrella Wattle
	paradoxa	Hedge Wattle
	pycnantha	Golden Wattle
	retinoides	Wirilda
	salicinia	Willow Wattle
	verniciflua	Varnish Wattle
	williamsonii	Whirrakee Wattle

Wattle Shortbread

250g butter
1/2 cup sugar
2 heaped tbsp Wattle Seed (ground)
2 1/2 cups plain flour
1/2 cup rice flour

Cream butter, sugar and wattle seed. Mix in remaining ingredients. Spread mixture into a baking tray, cover with greaseproof paper and press into a slice about 1cm thick. Pattern top if desired.
Bake in a moderate oven for 30 minutes. Slice into 'fingers' while still hot. Cool and store in an air-tight container.
Ideal with brewed coffee at the end of a meal.

(continued on page 9)

The Pollinators of Golden Wattle

Author: Sabine Wilkens

How important are birds in the pollination of Golden Wattle, *Acacia pycnantha* in the Bendigo region? It is surprising how little is known about such a prominent plant but anybody who has conducted ecological field experiments will realise that even years of work may not yield conclusive results. This year is a wonderful year for the Golden Wattle, just as well, as it has a year of catching up to do. Last year most buds failed to reach flowering and the bush was never yellow like it is at present. We then speculated that this might have been an after-effect of the drought and that last year, due to the low flower and fruit set, the plants had a really good chance to build up reserves. Perhaps this is what they did indeed and these reserves are now paying off in the profusion of flowers.

At the University we are hoping to make use of this good year with our experiments bagging the buds of *A. pycnantha*. Briefly, in order to determine the relative importance of bird, insect or wind (or self) pollination, students have bagged the racemes of *A. pycnantha* before they began to flower (in June). Some bags are made from chicken wire (to exclude birds but allow access by insects) others are made from shade cloth or fly wire (to exclude birds and insects). Unbagged racemes, accessible to all potential pollination agents, are used as controls. The idea is that in each treatment, chicken wire, fly wire and open racemes, the number of potential pods is determined by counting the flowers, and from the actual number of pods produced at the end of the season, the percentage pollination and fruit set is calculated for each treatment.

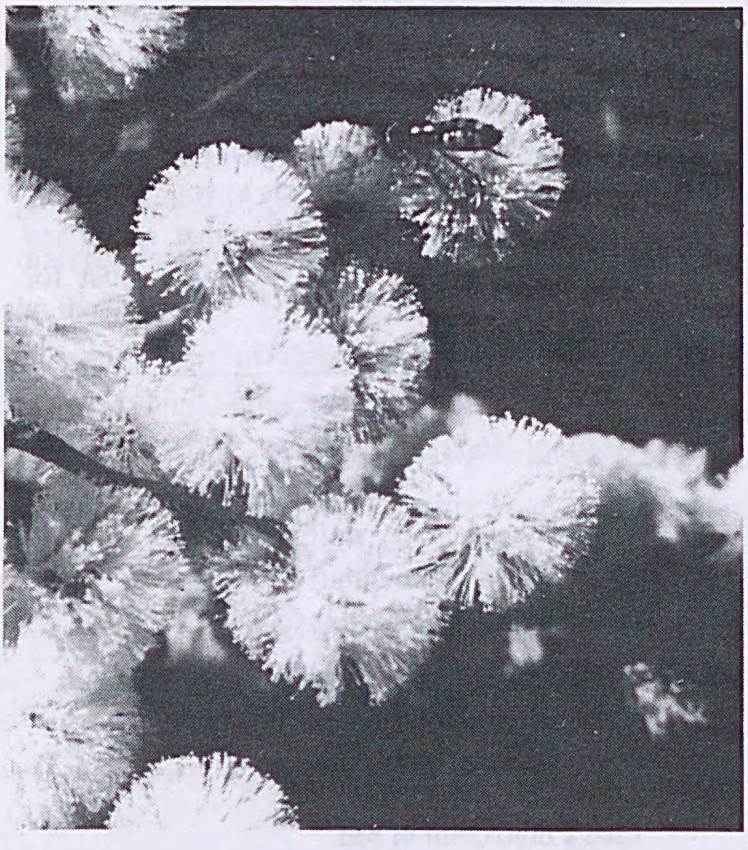
From the photograph on the right it looks as if the hoverflies do some pollinating, how effectively though is unknown. I have also seen a variety of other insects on Golden Wattle blossoms, amongst them European honey bees.

Birds are believed to be involved in pollination as well and they have been seen in contact with Golden Wattle flowers. The attractant for birds might be the nectar secreted by the so-called extra-floral nectary (the small gland on the margin of the phyllode, in Golden Wattle it is quite close to the base). In a 1989 issue of *Whirrakee*, Tom Burton has written about the role of extra-floral nectaries in African Wattles and their possible role(s) here in Australia.

In Africa these nectaries are clearly attractants for ants, which, in turn, defend their plants from hungry leaf eaters of any kind, but in Australia their role is less than clear.

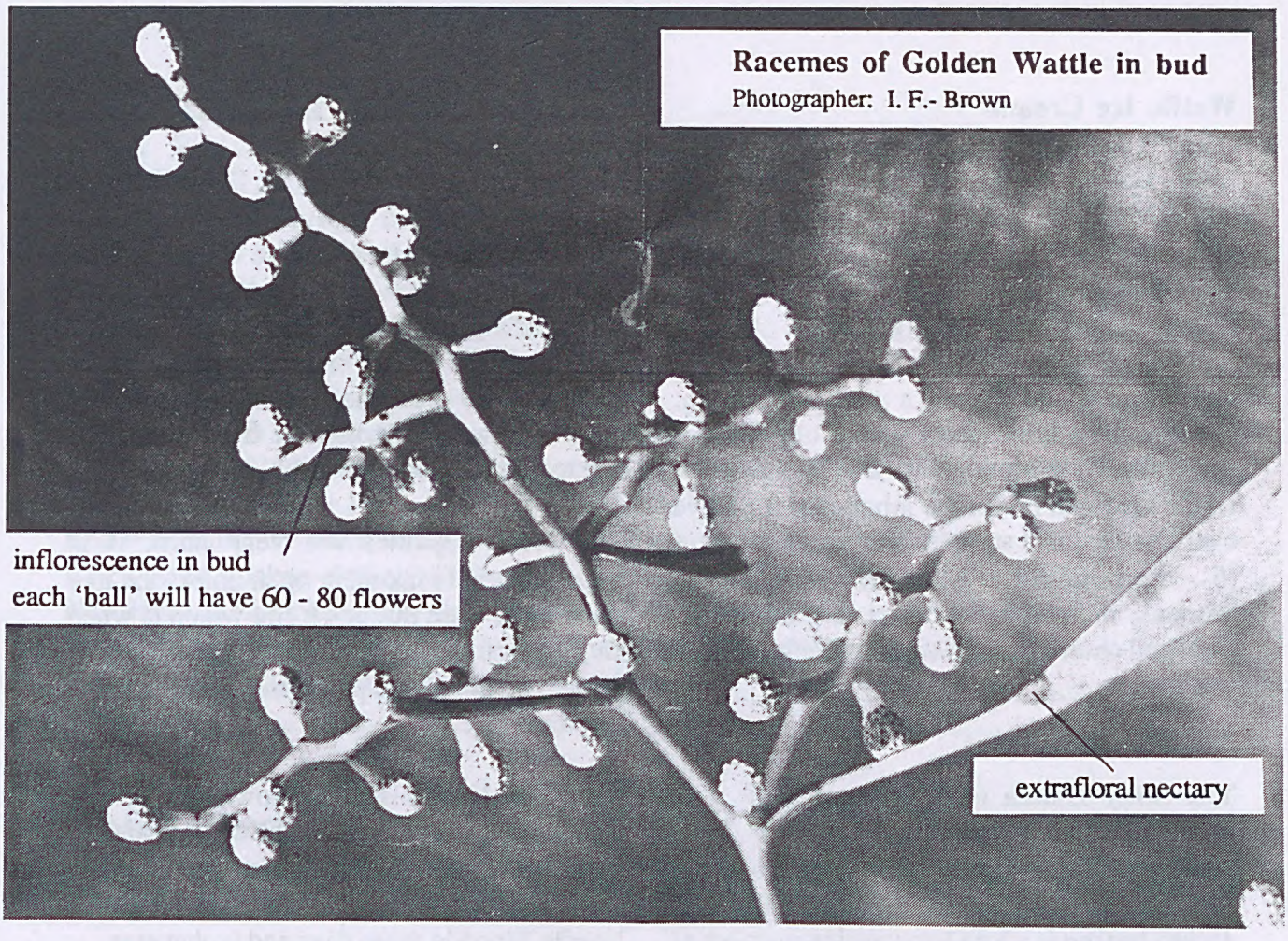
If the wattles are setting fruit well this year (and if the students' enclosures stay on the trees until October) we should get a good result for this year's effort. I shall be reporting on this when the time comes.

Apart from birds, flying insects and may be wind, there may be some other surprising pollinators which we have not dreamed of until now (see next page).



Hover flies on Golden Wattle flowers

Photographer: I. F.-Brown.



Racemes of Golden Wattle in bud
Photographer: I. F.- Brown

I admire the architecture of the Golden Wattle racemes in bud. At first sight the future flower balls within the raceme look randomly spaced and lacking any order. However, on closer inspection, they are uncrowded, within one branch of inflorescences, they all seem to be the same distance from each other, this ensures best access to resources perhaps, and perhaps most efficient access by pollinators.

A couple of weeks ago we had Open Day at La Trobe University here in Bendigo. One of the star attractions in our Biology display was a dissecting microscope showing a few Golden Wattle inflorescences in bud. People were hesitant to take a closer look at this, but were amazed when they did because the buds were crawling with tiny little insects, I would guess that some inflorescences had more than twenty of these insects. They differed in size and appearance and may have been the same insect at different larval stages or several insects species which shared this surprising habitat.

They appeared to be very much at home there as they did not move off the buds throughout the day in spite of the hot lamps shining on the display for many hours. They kept moving around between the flower buds and we were wondering what their food source may be. It may have been pollen as the buds were close to opening but then they must have occupied the inflorescence for a very short period only before we found them, and how then did they get there?

.....and do they have a role in pollination?

Wattle Ice Cream

250ml Cream
500ml Milk
180g sugar
4 egg yolks
1 heaped tbsp Wattle Seed (ground)

Heat the milk and sugar in a saucepan, stirring. Remove from heat. Slowly pour onto beaten egg yolks while beating with a whisk. Add the wattle seed and return the mixture to the stove over low heat and stir until it begins to thicken (5 - 10 minutes). Allow to stand for 15 minutes, then add the cream and mix well. Cool and churn in an ice cream machine.

The Silky Hakea or *Hakea sericea*
Our Cover Picture Vol. 17 No. 6

Author: Tom Patullo

Hakea sericea is a locally occurring member of the Hakea family, it has a number of interesting facts and features pertaining to it that such a good photo (*Thank you, Tom*) deserves a short write-up about these.

The main attractive feature of this plant is the beautiful floral display of white flowers, augmented b the beautiful brilliant contrasting red of the stems. Another prominent feature of this plant is the presence of a lovely perfume, by virtue of which the position of the plant becomes known well before one actually reaches it.

The plant carries a formidable armament being covered with wicked-looking "thorns" (these are modified leaves) over an inch long.

The bush would rarely exceed two metres in height and it appears to favour the moister areas of our bushland,thus we frequently find them growing along water races and channels and dam banks.

There is a similar Hakea species growing somewhat further afield than our local *H. sericea*, similar in form, but without the brilliant red stems, and rather subdued in perfume and armament. The common name is the Bird's Beak Hakea.

Another unusual feature of the Silky Hakea is the number of seed capsules that each bush produces. They are roundish in shape and pointed at one end, divided into two equal halves and produce two equally sized seeds. Both seeds are winged causing them to spin as they break free from the capsules thus enabling them to travel some distance from the parent tree to grow in a new area.

The seeds capsules are very hard, it is impossible to break them open unless the tree has died or been through a fire which is when they naturally open, allowing the life of the plant to continue (the parent tree usually dies in a severe fire).

The Silky Hakea is well known to me, as I was born and reared till I was eight years old on the northern plains where the plant is common, but it had the common name of Needle Wood in those days and in that area.

Flowering Red Ironbarks

Author: Tom Patullo

In Tom Burton's article on page 3 of the June *Whirrakee*, Tom remarks about the Red Ironbarks flowering well this year, and about the drops of honey in the dust on the Road underneath the trees.

Some years ago, it was a well known fact that one never ever parks their car under an Ironbark tree in flower, "Penalty", a couple of hours car cleaning, especially if one allowed the honey to dry.

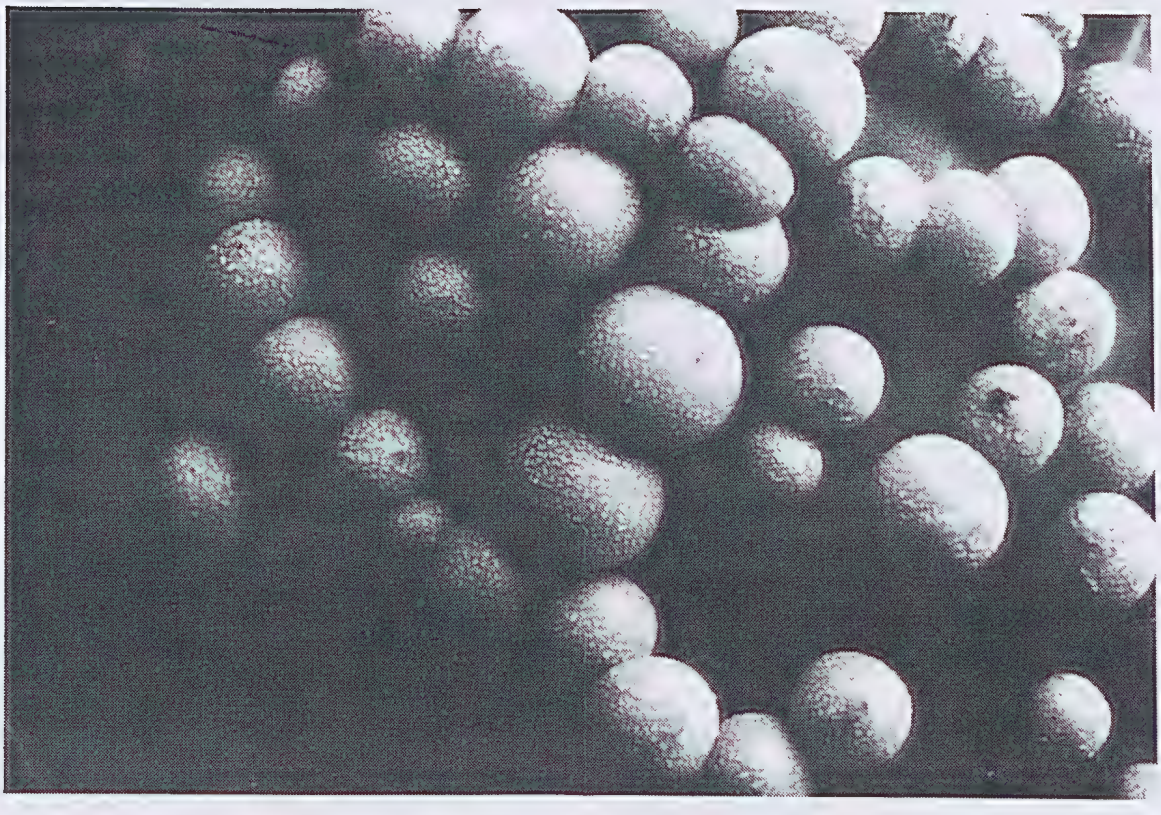
I am not sure on the effect the birds had on the car rooves but there always appeared to be a large number of fallen blossom together with the honey blobs. I have also noticed the abundant Red Flowering Ironbarks (*Eucalyptus sideroxylon*) about the streets this year.

Bird Observations
Author: Bird Observers Group

Little Friarbird (≈ 15), Wellsford Forest, 10/6/96
Straw-necked Ibis (≈ 160), Derrimut Road,White Hills, 15/7/96
Scarlet Robin (3) Dodder Track, Wellsford Forest, 16/7/96
Brolga (3), Tang Tang (Swamp?), 21/7/96
Hardhead (4), Tang Tang (Swamp?), 21/7/96
Crimson Rosella (3, immature plumage), Sedgwick, 25/7/96
Brown Thornbill (4) two adults feeding young, Sedgwick, 25/7/96
Cattle Egret (14) Ross Street, White Hills, 28/7/96
Red Wattlebird (3) adult feeding two young, Arnold Street, Bendigo 29/7/96
Black-faced Cuckoo-shrike (15) Bendigo Creek, Epsom, July 1996
New Holland Honeyeater (4) Napier Street, White Hills, 2/8/96
Flame Robin (2) one pair only, Bendigo Creek/Goynes Road, Epsom, 2/8/96
Plains Wanderer (1 female), Mitiamo, March 1996

Mystery Objects

What are these things and where would you find them?
Correct answers received by the editor in time for the next issue of *Whirrakee* will receive a (mystery) prize.



Aboriginal management of the natural environment

Author: Stan Pelczynski

There is a striking difference between Aboriginal and European perception and management of the natural environment. This difference is most clearly visible in the sciences and ethics the two societies have developed.

The difference between the Aboriginal and Western science is best explained by Michael J. Christie in his article "Aboriginal Science for the Ecologically Sustainable future" (1). According to Dr Christie, "Aboriginal Science is a model of knowledge which has evolved to allow human beings to fit into, rather than outside of, the ecology". The Western science on the other hand evolved in a world which "placed humanity apart and above the natural world, and in command of apparently inexhaustible resources. In our early days Western science appeared to need no ecological constraints, and it quite naturally expanded along all directions which improved our potential to exploit the physical world for our comfort and wealth."

The absence of ecological constraints meant that Western management of land inevitably led to land degradation and extinction of species either through direct eradication or through whimsical introduction of exotic ones. In aboriginal view this is mismanagement which they said turned the 'quiet' country they knew and managed into 'wild' country (2).

In her book "Old Days, Old Ways", Dame Mary Gilmore relates how Aboriginal management of land preserved the biodiversity of Murrumbidgee, Wagga Wagga, Burnside regions and how this diversity was destroyed within a few years by the European invaders (3). Her father tried to preserve at least part of the Aboriginal emu sanctuary in Wagga Wagga, but these efforts were lost to developers. He was motivated by an ethic akin to the Aboriginal land ethic Deborah Bird Rose speaks of in "Exploring an Aboriginal Land Ethic" (2).

The 'land ethic' is an extension of ethics tha prompt individuals to co-operate with fellow members of their community to include soil, water, plants and animals in the boundaries of the community. Ethics are essential for any community to function peacefully and therefore exist.

The existence of land ethic within Aboriginal society meant that the overwhelming majority would respect and protect the variety of all life forms,that is biodiversity, on their lands. Policing to protect the environment was therefore possible. In Western society people with a land ethic are a minority, that is why it is difficult to protect the environment and police the existing environmental laws.

The difference in approach to the environment means that the two societies developed different forms of management of land.

The articles "Save our Species" (4), "Salt of the Earth" (5), are but two of the numerous articles recently published which illustrate the effect of European land management. "The Warlpiri and the Rufous Hare Wallaby" (6), and "Looking after the land at Uluru" (7) shows how Aboriginal management restored

the health of the environment in the two national parks.

It is now recognised within Australian society that biodiversity, i.e. a healthy natural environment, is essential in the maintenance of human life on earth and European scientists have acknowledged that the preservation of biodiversity is vital for an ecologically sustainable society (8).

It is also recognised now that Aborigines "were botanists and ecologists, thoroughly conversant with ecological zones, succession and climax vegetation" (14), and that the Australian biodiversity as we know it, including wilderness areas, came about as a result of Aboriginal land management (13). The Mabo judgement (9) and the restoration of land ownership to aboriginal communities under the Native Title and various State and Territories Land Rights Legislation (10, 11, 12) is a matter of justice.

The recognition that Aboriginal management of lands is vital to the preservation of our biodiversity shows that we, as a society, do gain in practical terms from the implementations of Aboriginal Land Rights (13).

References

1. M. J. Christie,
Aboriginal Science for Ecologically Sustainable Future. *Australian Teachers Journal*, March. republished in *Chain Reaction* No.68, Feb 1993

2. Deborah Bird Rose,
Exploring an Aboriginal Land Ethic, *Meanjin*, Vol.47, No.3 Spring 1988, p.386

3. Dame Mary Gilmore,
Old Days: Old Ways, Angus and Robertson 1934, republished 1985, p.139

4. Natasha Bita,
Save our Species, *The Australian*, 23.9.95

5. Caroline Milburn,
Salt of the Earth, *The Age*, 2.9.95

6. Chris Loorham,
The Warlpiri and the Rufous Hare Wallaby, *Habitat*, Vol.13, No.4, 1985

7. Peter, D. Canty,
Looking after Uluru, *Ecos*, No. 71, Autumn, 1992

8. M.D. Young *et al.*
Reimbursing the Future, Biodiversity Series Paper No. 9, Biodiversity Unit, Department of Environment, Sport and Territories, 1996.

9. Action for Aboriginal Rights, The High Court Recognition of Native Title - The Mabo Judgement and its Implications, 27.7.93

10. Terry Libesman,
Mabo and Native Title School Kit, The Aboriginal Law Centre, Faculty of Law, University of New South Wales, 1996

11. Terry Libesman, Mabo and Native Title Kit, The Aboriginal Law Centre, Faculty of Law, University of New South Wales, 1996

12. H. Roe, G. Netheim and L. Beacroft, Aboriginal Legal Issues, The Law Book Company Ltd. 1991

13. Mark Hortsman and Jim Downey,
Cape York Peninsula, The Land Needs its People, *Habitat*, August 1995

14. Sylvia J. Hallam, Fire and Hearth, a study of Aborigianl usage and European usurpation in South-Western Australia, Australian Aboriginal Studies, No. 58, Prehistory and Material Culture Series, No.8, A.I.A.S. 1975, esp. pp.37 to 40.

Spring in the Bendigo Bush Event Details

* Colouring Competition Colour the Spring in the Bendigo Bush calendar and win a prize. Return your calendar to Bendigo Library, Hargreaves St and place in the box provided by the 5th October, 1996. Please provide name, address & age.
* Wattle Day Celebration 1st September, 1996. Free wattle give away. Location : Sandhurst Nursery, cnr Crane and John St, North Bendigo. Time : Open from 8.30 am. Further Information : Tony Fittock phone 422 152.
* Wild Flower Walk Trust for Nature - Salomons Gully Flora Reserve. Date : 1st September. Time : 10.00 am Meeting point : Carpark at Burnside Street behind the Bendigo Cemetery. Contact : Elvyne Hogan Phone : 353 344.
* Ausfeldii Wattle Walk Spring Gully Reservoir & District Environment Group. Date : 28th September. Contact : Jenny Shield phone 413 181.
* Whipstick Wattle Wander Eaglehawk Environment Group. Be guided through the whipstick and enjoy the flowering wattles. Date: 15th September. Time: 1.30 to 3.30 pm. Meeting point: Eaglehawk Town Hall. Own transport required. Further Information: Ms Diane Bish phone 467 376.
* Walk in the Bush The Bendigo Alpine Club. Be guided through the wonders of the Bendigo bush. Dates: 3rd Sept - One Tree Hill, 10th Sept - Wellsford Forest, 29th Sept - Salomon Gully. Further Information: Bev Porteous ph 422143.
* Walk in the Bush The University of the Third Age. Date : 5th, 12th, 19th, 26th September and 3rd October. Time : 9.15 am. Location : Meeting point - Strath Village Carpark. Contact : Estelle Hewston phone 421 643.
* Wild Flower Show The Bendigo Field Naturalists Club. Bendigo Native Plant Group Come and admire Australias Native Wildflowers. Dates: 7th & 8th September. Location : Golden Square Senior Citizens Club Rooms, Old High St, Golden Square. Time: 10.00 am to 4.00 pm. Contact : Jane Cleary phone 484396.
* Wild Flower Planting Day Friends of Kennington Reservoir. Help beautify Kennington Reservoir by assisting the Friends plant Bendigo Wax. Date: 8th September. Location: Opposite Crook St entrance to Kennington Primary School. Time: 10.00 Contact : Anthony Sheean phone 346 467.
* Wildflower Display Goldfields Revegetation. Dates: 4th, 11th and 18th September. Location: end of Dysons Rd, Mandurang. Time : 10.00 am - 2.00 pm. Contact : Marilyn Sprague ph 395 384.
* Land for Wildlife Open Day Date : 1st Sept Contact : Dept Natural Resources & Environment - Peter Morrison 446666
* Cemetery Walks Friends of the Bendigo Cemeterys. Be guided through the history & features of Bendigo's Cemeteries. Date : 14th September - Bendigo Cemetery, Carpenter St main gates 2.30 pm. 21st September - White Hills Cemetery, main gates 2.30 pm. Further information : Carol Holsworth ph 434 063.
* Bendigo Orienteering Club Club Activities. Dates: 7th, 14th, 21st & 28th September. Contact: Peter Galvin Phone 433 493
* Native Plant Arboretum Tour Dates: 7th, 8th, 14th, 15th, 21st, 22nd, 28th & 29th September and 5th October. Location: Emu Creek Arboretum, Vahlands Rd, Strathfieldsaye off Emu Creek Rd. Tour times: 10.30 & 3.30. Further Information: Geoff Gibson phone 396 359.
* Bendigo Field Naturalists Club Dinner (Bookings required) Date: 11th September. Time: 6.30 pm Location: Golden Square Senior Citizens Club Rooms. Contact : Jane Cleary phone 484 396.
* Skydancers Orchid & Butterfly Gardens Refer to Calendar for dates. Tours commence 11.00 am & 3.00 pm. Location: Midland Highway, Harcourt. Contact: Gary or Chris Sobey phone 742 468.
* Dept Natural Resources & Environment Holiday Program Stargaze Night, Puppet Show, Night Walk, Twilight Walk, Homebuilding Campfire, Treasure Hunt, Park Quiz, Kite Capers, Frog Watch, Hook line & Sinker, Murder in the Dark, Junior Ranger. Refer to Calendar for Dates. Details/Bookings contact Dept Natural Resources & Environment 446666.
* Insectarium of Australia Enjoy the wonders of Heathcote's Insectarium. Location: 221 High St, Heathcote. Open every day. Contact: 333 022
* Native Tree Planting California Gully Recreation Reserve. Date: 28th September. Time: Between 1 pm & 3 pm Location: Cnr Turner St & Murdoch St, California Gully. Contact: Maureen Hibberd phone 467 598.
* Greening Australia Revegetation Talk Bendigo Native Plant Group. Speaker: David Millson (Greening Australia). Location: Bendigo Regional Institute of Tafe, Horticultural Annexe, Osborne St, Bendigo. Date 20th September. Time: 7.30pm. Contact: Frances Cincotta 762 691.
* Tree Planting with Bendigo Field Naturalists Club. Greening Australia Location : Ravenswood, Meeting Point - Golden Square Senior Citizens Club Rooms, Bendigo. Time : 1 pm Date : 15th September. Contact: Jane Cleary phone 484 396 or Kerry Reid phone 353 891.
* Emu Creek Bush Band Bush Dance. Date: 13th September. Time: 8.00 pm. Location: Spring Gully Community Hall. Contact: Peter Ellis phone 423 940

Organised By :

* *The City of Greater Bendigo*
* *Trust for Nature.Victoria*
* *Bendigo District Environment Council*
* *Dept Natural Resources and Environment*
* *Bendigo Field Naturalists Club Inc.*

Spring in the Bendigo Bush

September

Sun	Mon	Tues	Wed	Thur	Fri	Sat
1 *Wattle Day *Sandhurst Nursery *Land for Wildlife Open Day *Wildflower Walk *Skydancers *Insectarium	2 Skydancers Insectarium	3 Walk in the Bush Insectarium	4 Wildflower Display Goldfields Revegetation Skydancers Insectarium	5 U3A Walk in the Bush Skydancers Insectarium	6 Skydancers Insectarium	7 Orienteering Club Emu Creek Arboreteum Skydancers Insectarium Wildflower Show
8 *Wildflower Show *Wildflower Planting Day *Emu Creek Arboreteum *Skydancers *Insectarium	9 Skydancers Insectarium	10 Walk in the Bush Insectarium	11 Field Nats Dinner Wildflower Display Goldfields Revegetation Skydancers Insectarium	12 U3A Walk in the Bush Skydancers Insectarium	13 Skydancers Insectarium	14 Orient. Club Cemetery Walk Emu Crk Arboreteum Insectarium Skydancers
15 TreePlanting Emu Creek Arboreteum whipstick Wattle Wander Insectarium Skydancers	16 Skydancers Insectarium	17 Insectarium	18 Wildflower Display Goldfields Revegetation Skydancers Insectarium	19 U3A Walk in the Bush Skydancers Insectarium	20 Bush Revegetation Talk Skydancers Insectarium	21 Orient. Club Cemetery Walk Emu Crk Arboreteum Insectarium Skydancers
22 Stargaze Night Emu Creek Arboreteum Skydancers Insectarium	23 Puppet Show Nightwalk Skydancers Insectarium	24 Bike Ride Twilight Walk Insectarium	25 Home Building Campfire Skydancers Insectarium	26 Treasure Hunt Park Quiz U3A Walk in the Bush Skydancers Insectarium	27 Kite Kapers Frog Watch Skydancers Insectarium	28 *Orient. Club *Emu Crk Arbo *Hook Line & Sinker - Murder in the Dark *Ausfeldt Wattle Walk *Cal. Gully Rec. Res T Planting
29 Walk in the Bush Stargaze Night Emu Creek Arboreteum Skydancers Insectarium	30 Junior Rangers - Water Nightwalk Skydancers Insectarium	1 Puppet Show Frogwatch Insectarium	2 Treasure Hunt Park Quiz Skydancers Insectarium	3 Junior Rangers U3A Walk in the Bush Skydancers Insectarium	4 Skydancers Insectarium	5 Emu creek Arboreteum Skydancers Insectarium

Diary

The General, Bird Observers Group and Mammal Survey Group meetings are held at the Golden Square Senior Citizens Building, Old High Street, Golden Square, unless otherwise indicated.

General Meeting

September 11, Dinner Meeting
Meet for dinner at 6:30pm, to be followed by the President's Address.
Cost $ 12 per person.
Tickets will be available at the August meeting.
RSVP by 21st August to Jane Cleary: 484396.

October 9, 7:30pm
David Milson will talk about Greening Australia and green corridors.

November 13, 7.30pm
Eric Wilkinson will talk about "Geology, landscape and vegetation of the Bendigo area"

Excursions

The assembly point for excursions is outside the Golden Square Senior Citizens Building, Old High Street, Golden Square, unless otherwise specified. Full-day Excursions normally commence at 10am.
Please check details (or any changes) in the *Whirrakee* for the month of the excursion.

Sunday, September 15
A tree-planting in Ravenswood is planned.
Meet at the Club Rooms at 1.00pm. A map will be supplied on the day.

Sunday October 13
This will be a trip to Crosbie Forest to look at orchids.
Leader: Tom Patullo

Sunday November 17
A geological excursion will follow Eric Wilkinson's Talk at the November General Meeting. There will be a charge to cover the cost of the bus (≈ $ 10) and people who are interested in attending have to express that interest by the 13th November.
Lunch will be a b.y.o. picnic at Mt Franklin.

Bird Observers Group

September 6, 7:30pm
Bird of the Night: Southern Whiteface

October 4, 7:30pm
Members Night. Members are invited to share their favourite birding experiences (slides, videos etc.)
Bird of the Night: Fuscous Honeyeater.

November 1, 7:30pm
Chris Tzaros will give a talk about the Grey-crowned Babbler Survey.
Bird of the Night: White-fronted Chat

December 6, 7:30pm
Bird of the Night: Willie Wagtail

Other Events

October 18 - 20
WFNCA Campout, Glenelg River, Myaring Reserve, hosted by the Casterton Field Naturalists Club
See page 14 of August *Whirrakee* for detailed program

October 18 - 20
Murrumbidgee Conference of Bird Observers Leeton and Griffith, hosted by the Murrumbidgee Field Naturalists Inc. (see article on page 14 in July *Whirrakee*)

Supper

The usual arrangements for supper are as follows: members either bring a plate or pay $1 for supper. This small amount is used to reimburse members who purchase essential supper supplies.